

REMARKS

Applicants request favorable reconsideration of this application in view of the following remarks. Of claims 1-10 which were pending in the application, claims 1, 5, and 7-10 were rejected in the Office Action. By way of this Reply, Applicant has made no amendments and, therefore, claims 1-10 remain pending for further consideration.

Applicants greatly appreciate the allowance of claims 2-4 and 6 and the indication of allowable subject matter in claims 7 and 8.¹ Moreover, Applicants also appreciate the Examiner's indication that reference B5 submitted in the I.D.S. filed November 19, 2002 has been considered. Applicants look forward to the next paper issued by the Patent Office in which Applicants anticipate that a similar indication will be made with respect to the references submitted with the I.D.S. filed on July 6, 2004.

1. Rejection of Claims 1, 7, and 8 under 35 U.S.C. § 112, ¶ 1

The Examiner rejected claims 1, 7, and 8 under 35 U.S.C. § 112, ¶ 1 on the ground that Applicants' use of the terms "damping" and "dampened" in those claims, as characterized in the Remarks filed December 30, 2003, is unsupported by the specification. Further, the Examiner asserts that "The accepted meaning of the word(s) damping and dampened, is 'diminished activity,' 'a dulling or deadening effect.'" Applicants do not disagree with this definition in other contexts. However, in this technology, the meaning of this language is clear and fully supported by the as-filed application.

As shown below in lower dashed curve of the "damped harmonic motion" shown in Figure 15-19 taken from PHYSICS PARTS I AND II COMBINED, THIRD ED. (3rd ed. 1978), a damped curve is one that gently approaches an asymptote. This graph conforms with an accepted definition of word damper as "A device that . . . *progressively* diminishes vibrations[.] THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE, FOURTH EDITION (4th ed. 2000) (*italic emphasis added*). Accordingly, this definition and the lower dashed curve in Figure 15-19 directly correspond to the solid line curves shown in Figures 11B and 11C of the instant application which show a mechanical system acting progressively on a signal such that the response gently approaches an asymptote. As a result, Figures 11B

¹ Applicants note that the Office Action Summary and page 4 of the Office Action indicate that claims 2-4 and 6-8 are allowed. However, as a result of the rejection of claims 7 and 8 under 35 U.S.C. § 112, ¶ 1 on page 2 of the Office Action, Applicants assume that the Examiner intended only to indicate that claims 7 and 8 contain allowable subject matter.

and 11C provide adequate support for the recitation of “damping” in claim 1 and “dampened” in claims 7 and 8.

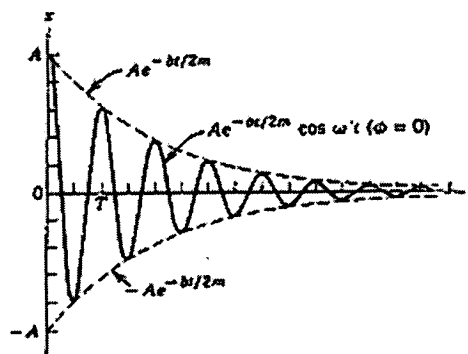


figure 15-19
Damped harmonic motion plotted versus time. The motion is oscillatory with everdecreasing amplitude. The amplitude (— — —) is seen to start with value A and decay exponentially to zero as $t \rightarrow \infty$.

In light of the aforementioned, it is clear that the original disclosure fully supports use of the terms “damping” and “dampened” in claims 1, 7, and 8. Accordingly, the new matter concern is unfounded and, therefore, the rejection of claims 1, 7, and 8 under § 112, ¶ 1 should be withdrawn.

2. Rejection of Claims 1, 5, 9, and 10 under 35 U.S.C. § 102(b)

The Examiner rejected claims 1, 5, 9, and 10 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,222,465 (“Sakamoto”). For the following reasons, Applicants respectfully traverse this rejection.

As previously presented, claim 1 (*i.e.*, the claim from which claims 9 and 10 depend) and claim 5 recite (with italic emphasis added):

1. A method for controlling intake air of an internal combustion engine, the engine having at least one combustion chamber provided with an intake valve together with an intake manifold provided with a throttle valve, wherein the opening and closure timings of the intake valve are adjustable independently from a crankshaft position to control the amount of intake air supplied to the combustion chamber, the method comprising:

damping an operating signal for the intake valve relative to a change in acceleration or deceleration demand on the engine, for unthrottled intake air control.

5. A system for controlling intake air of an internal combustion engine, the engine having at least one combustion chamber provided with an intake valve together with an intake manifold provided with a throttle valve,

wherein the opening and closure timings of the intake valve are adjustable independently from a crankshaft position to control the amount of intake air supplied to the combustion chamber, the system comprising:

a control for *damping an operating signal for the intake valve* relative to a change in acceleration or deceleration demand on the engine, for unthrottled intake air control.

As hereafter explained in detail, Sakamoto fails to teach or suggest either the method recited in claim 1 or the system recited in claim 5.

Sakamoto teaches using an electronic control unit 35 to adjust a timing for the opening and closing of the intake valves 7 based on whether the engine operating conditions are indicative of a standard timing range ("STR") or a specific timing range ("RTR"). In the STR condition, valves 7 are opened/closed at the standard valve timing. By way of contrast, in the RTR condition, the valves 7 are opened/closed at a specific valve timing. *See* U.S. Pat. No. 5,222,465 at col. 6, lines 15-22. Sakamoto does not teach or suggest, however, that the operating signal for the intake valve relative to a change in acceleration or deceleration is "damped." Rather, Sakamoto clearly teaches away from damping in Figure 3 which shows that the solid curve I-2 for the RTR condition is simply retarded with respect to the solid curve I-1 for the STR condition. In other words, the opening/closing of the intake valves 7 in the RTR condition is merely phase shifted with respect to the opening/closing of the valves in the STR condition. *See id.* at col. 5, lines 21-68. As a result of the phase shift nature of the response, the response is not damped according to the previously set forth definition. Moreover, mere statements that torque shocks are reduced during deceleration (*e.g.*, col. 2, lines 17-18; col. 8, line 52; and col. 9, lines 15-19) is insufficient to provide a teaching or suggestion of damping the operating signal for the intake valve.

As Sakamoto fails to teach or suggest at least damping an operating signal for an intake valve, it can not be used to reject claims 1 or 5, or any claim dependent thereon, under 35 U.S.C. § 102(b). Moreover, as claims 9 and 10 depend from claim 1, each of these dependent claims is also allowable over Sakamoto, without regard to the other patentable limitations recited therein. Accordingly, Applicants respectfully solicit a withdrawal of the rejection of claims 1, 5, 9, and 10 under § 102(b).

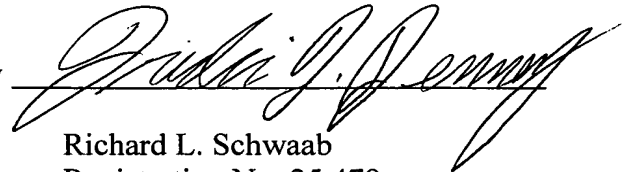
CONCLUSION

For the aforementioned reasons, claims 1-10 are now in condition for allowance. A Notice of Allowance at an early date is respectfully requested. The Examiner is invited to contact the undersigned if a telephone interview would expedite the prosecution of the application.

Respectfully submitted,

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THE COMMISSIONER IS HEREBY AUTHORIZED TO CHARGE ANY ADDITIONAL FEES WHICH MAY BE REQUIRED REGARDING THIS APPLICATION UNDER 37 C.F.R. §§ 1.16-1.17, OR CREDIT ANY OVERPAYMENT, TO DEPOSIT ACCOUNT NO. 19-0741. SHOULD NO PROPER PAYMENT BE ENCLOSED HERewith, AS BY A CHECK BEING IN THE WRONG AMOUNT, UNSIGNED, POST-DATED, OTHERWISE IMPROPER OR INFORMAL OR EVEN ENTIRELY MISSING, THE COMMISSIONER IS AUTHORIZED TO CHARGE THE UNPAID AMOUNT TO DEPOSIT ACCOUNT NO. 19-0741. IF ANY EXTENSIONS OF TIME ARE NEEDED FOR TIMELY ACCEPTANCE OF PAPERS SUBMITTED HERewith, APPLICANT HEREBY PETITIONS FOR SUCH EXTENSION UNDER 37 C.F.R. § 1.136 AND AUTHORIZES PAYMENT OF ANY SUCH EXTENSIONS FEES TO DEPOSIT ACCOUNT NO. 19-0741.